EXAM 1 C.EZEMA

ADVANCE DATABASE

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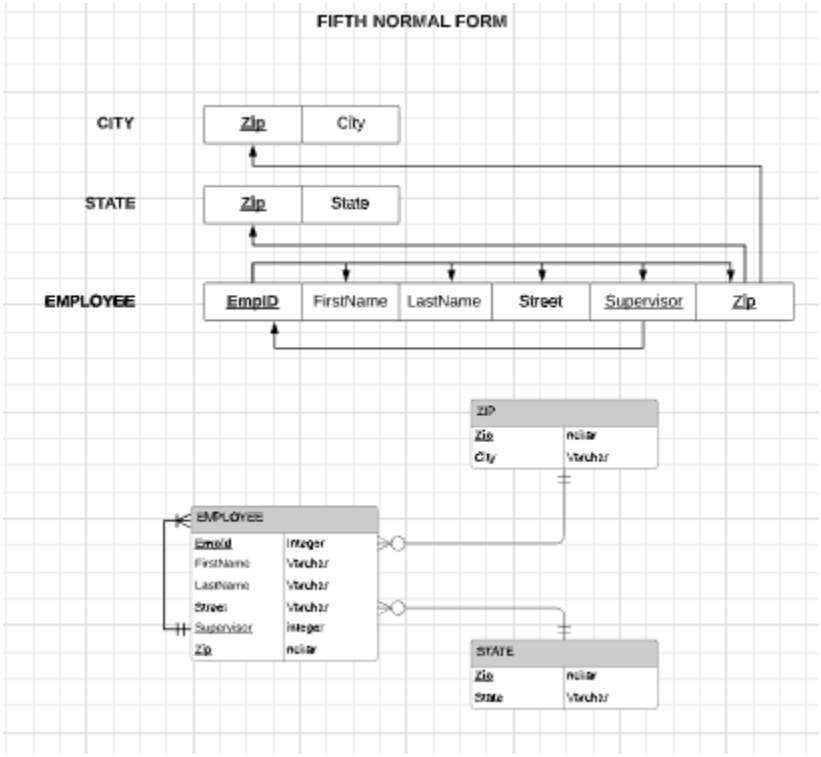
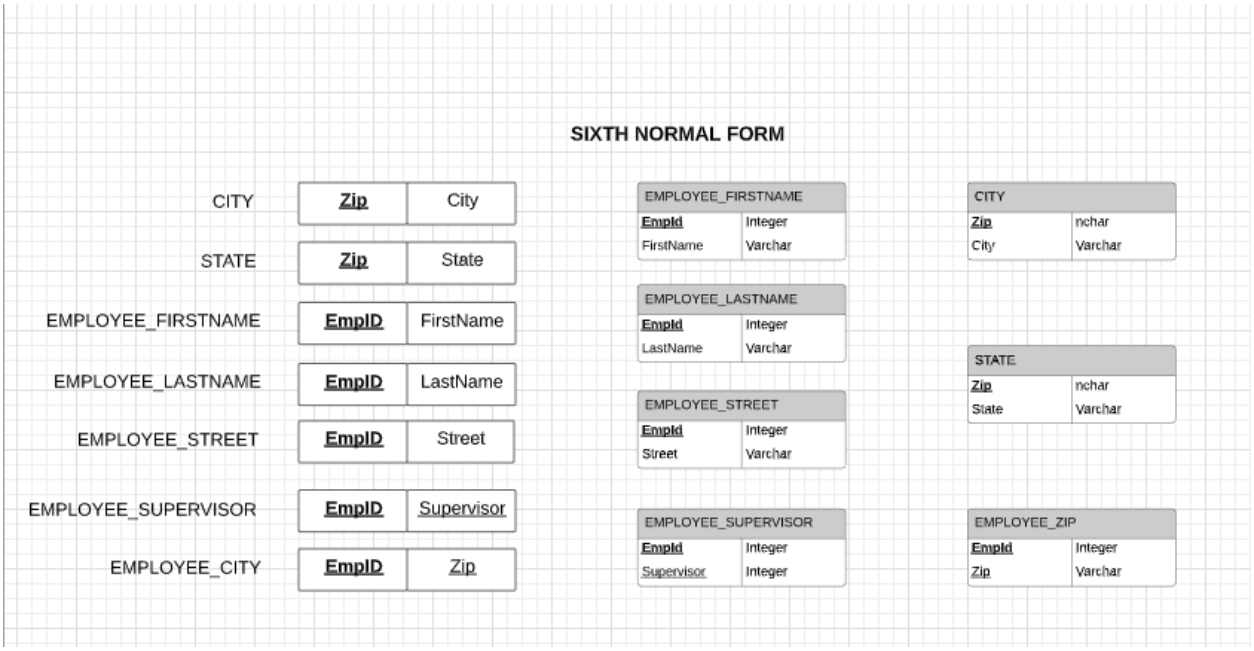
Create Table Design using 5th and 6th Normal forms.





Create Database

Data Dictionary of labels, data types, constraints for Table Design.

C_EZEMA_EXAM1 – DATA DICTIONARY

Table: **HR.Employee**

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
EmpID	**PK**; Unique Employee ID	varchar	10						Y
FirstName	Employee First Name	varchar	40						
LastName	Employee Last Name	varchar	40						
DOB	Employee DOB	date					>= '1963-01-01'		
PhoneNumber	Employee Phone #	varchar	13						
Salary	Employee Salary	Money							
Email	Personal E-mail	varchar	255						
Zip	Field zip	nchar	5			33620	LIKE '[0-9][0-9] [0-9][0-9][0-9]'		

Table: **Prod.Product**

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
PID	**PK**; Unique Product ID	smallint							Y
Name	Product Name	varchar	14						
Type	Product Type	varchar	14			'Website'			
Price	Product Price	money							

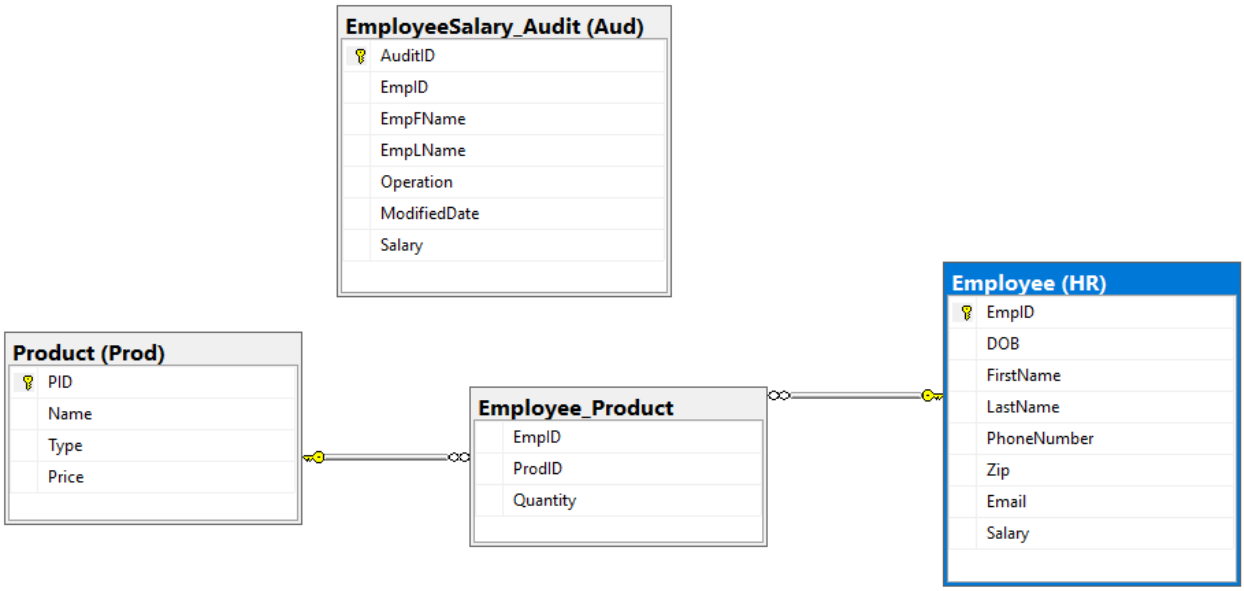
Table: **Aud.EmployeeSalary_Audit**

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
AuditID	**PK**; Unique Audit ID	smallint							Y
EmpFName	Employee First Name	varchar	40						
EmpLName	Employee Last Name	varchar	40						
Operation	Employee DOB	varchar	3						
ModifiedDate	Employee Phone #	date							
Salary	Employee Salary	money							

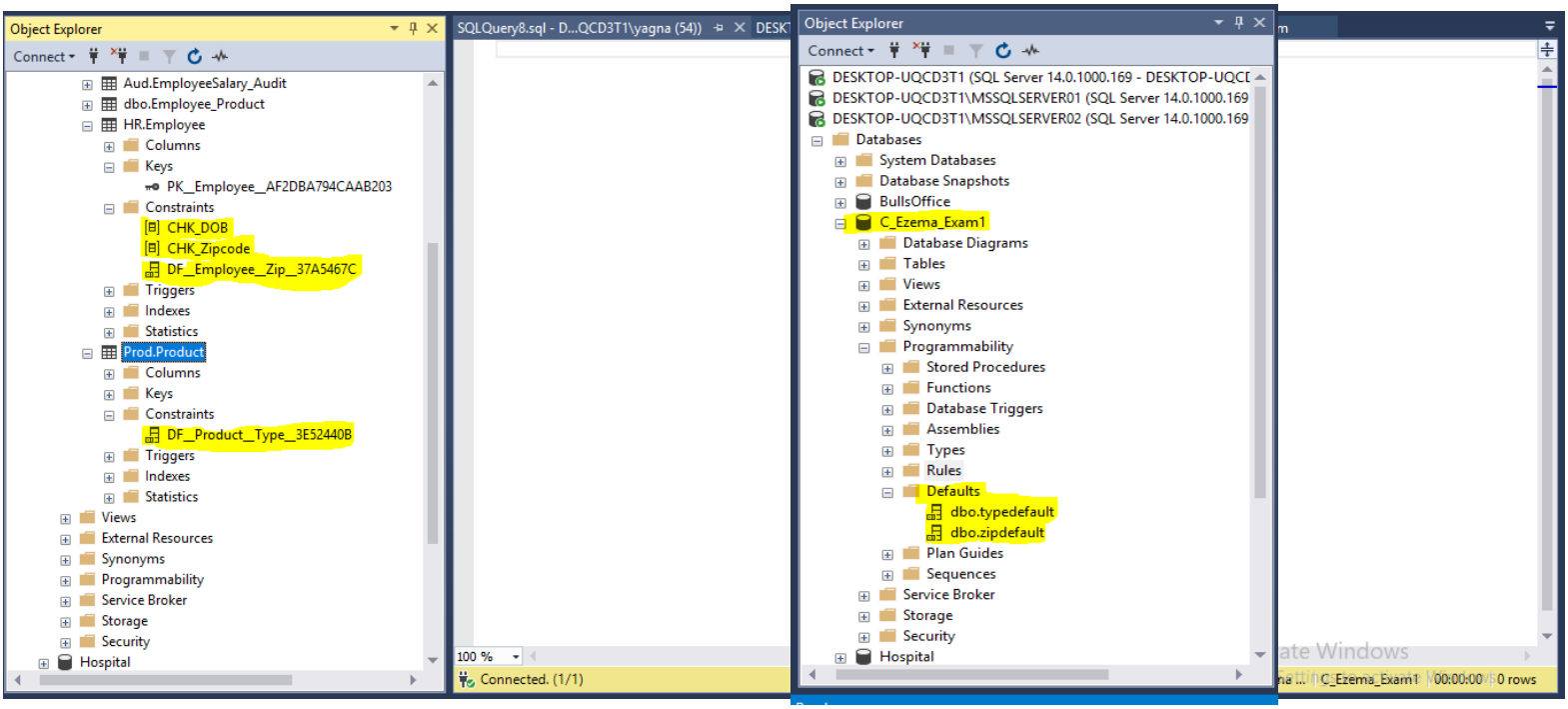
Table: **dbo.Employee_Product**

Column Name	Description	Data Type	Size	Identity	Unique	Default	Check	Allow Nulls	Index
EmpID	**FK**; Employee ID	varchar	10						
ProdID	**FK**; Product ID	smallint							
Quantity	Product Type	smallint							

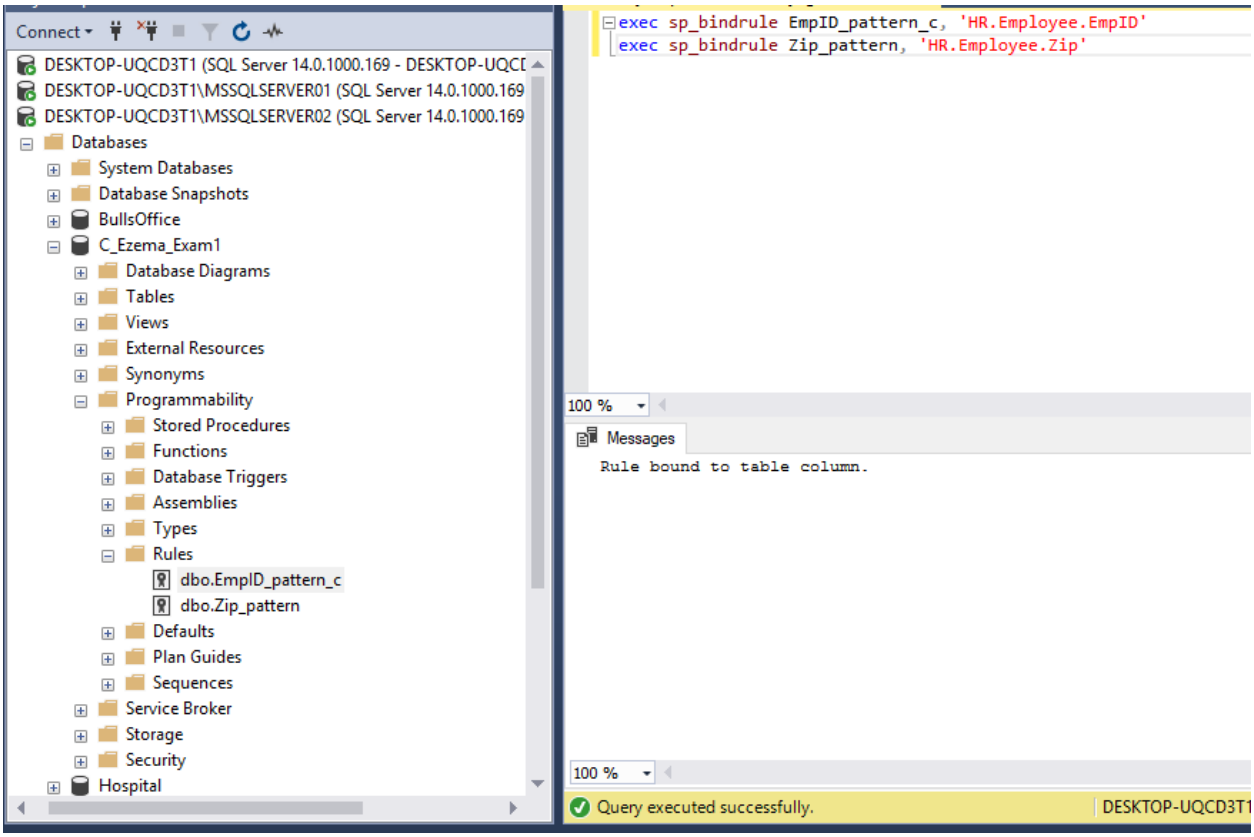
Database diagram for each schema with PK/FK Relationships.



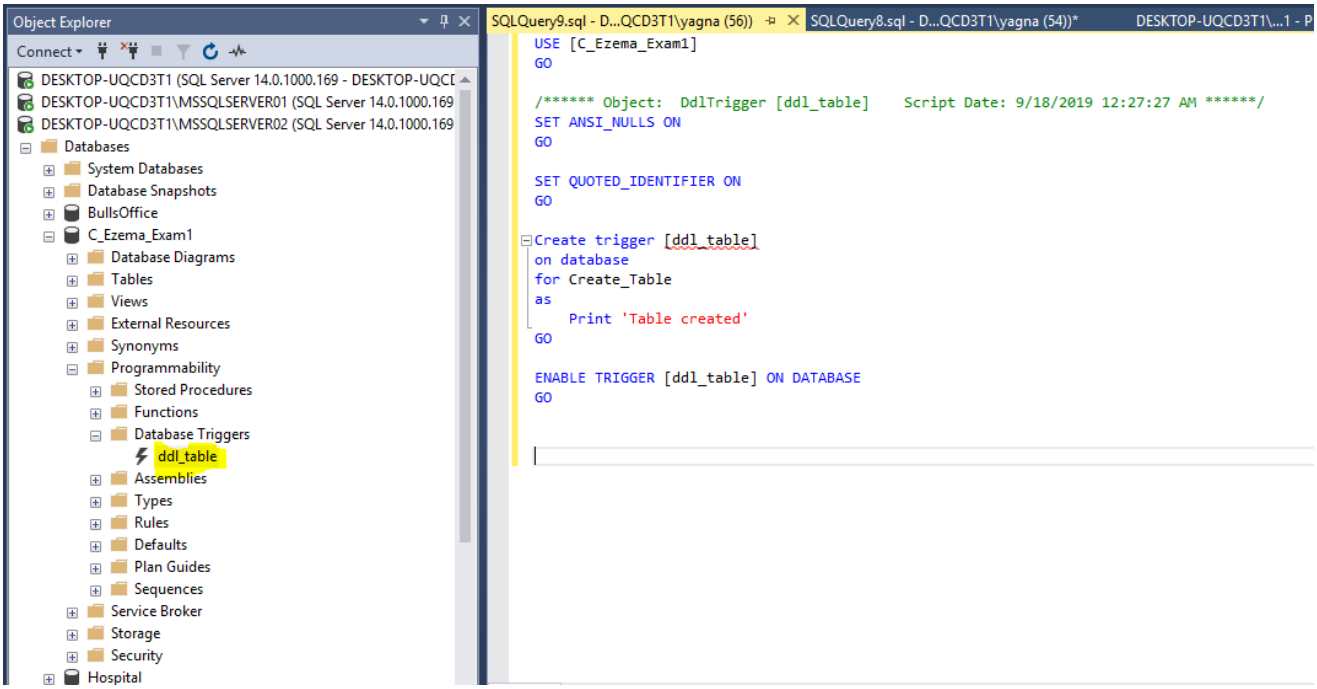
Checks and Defaults



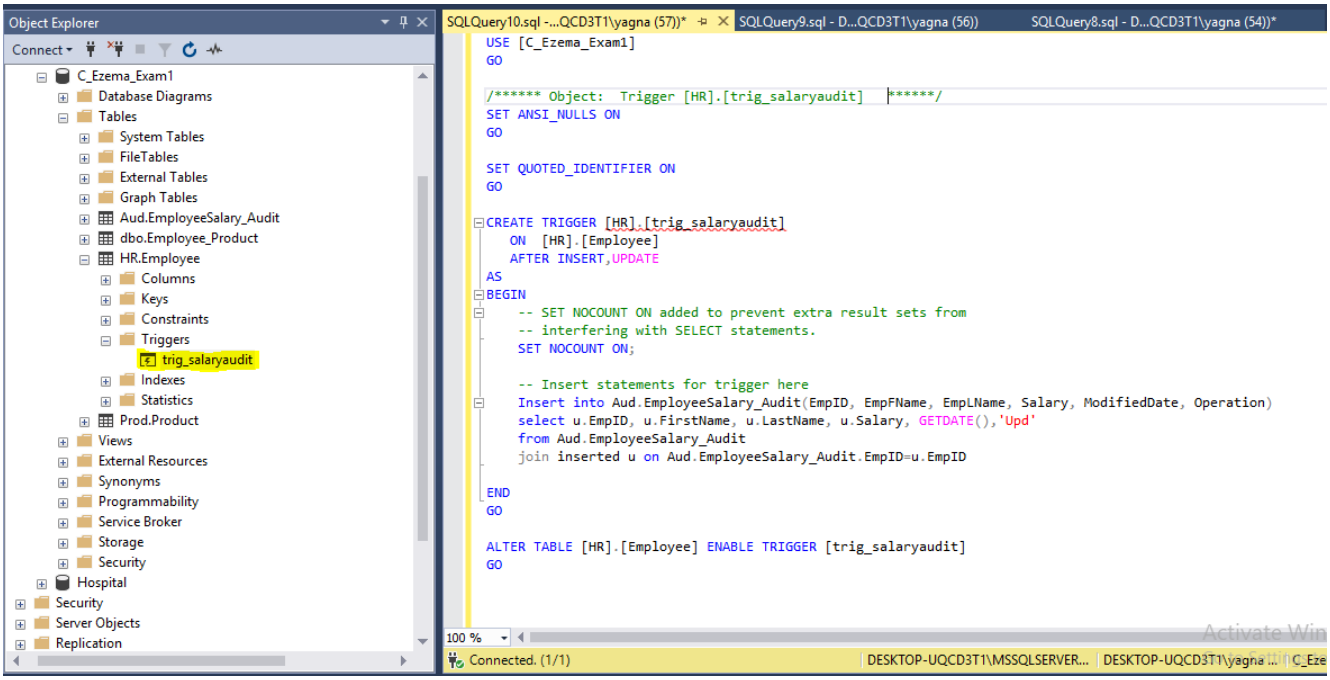
Rules


Connect
DESKTOP-UQCD3T1 (SQL Server 14.0.1000.169 - DESKTOP-UQCD
DESKTOP-UQCD3T1\MSSQLSERVER01 (SQL Server 14.0.1000.169
DESKTOP-UQCD3T1\MSSQLSERVER02 (SQL Server 14.0.1000.169
Databases
System Databases
Database Snapshots
BullsOffice
C_Ezema_Exam1
Database Diagrams
Tables
Views
External Resources
Synonyms
Programmability
Stored Procedures
Functions
Database Triggers
Assemblies
Types
Rules
dbo.EmpID_pattern_c
dbo.Zip_pattern
Defaults
Plan Guides
Sequences
Service Broker
Storage
Security
Hospital
exec sp_bindrule EmpID_pattern_c, 'HR.Employee.EmpID'
exec sp_bindrule Zip_pattern, 'HR.Employee.Zip'
100 %
Messages
Rule bound to table column.
100 %
Query executed successfully.
DESKTOP-UQCD3T1

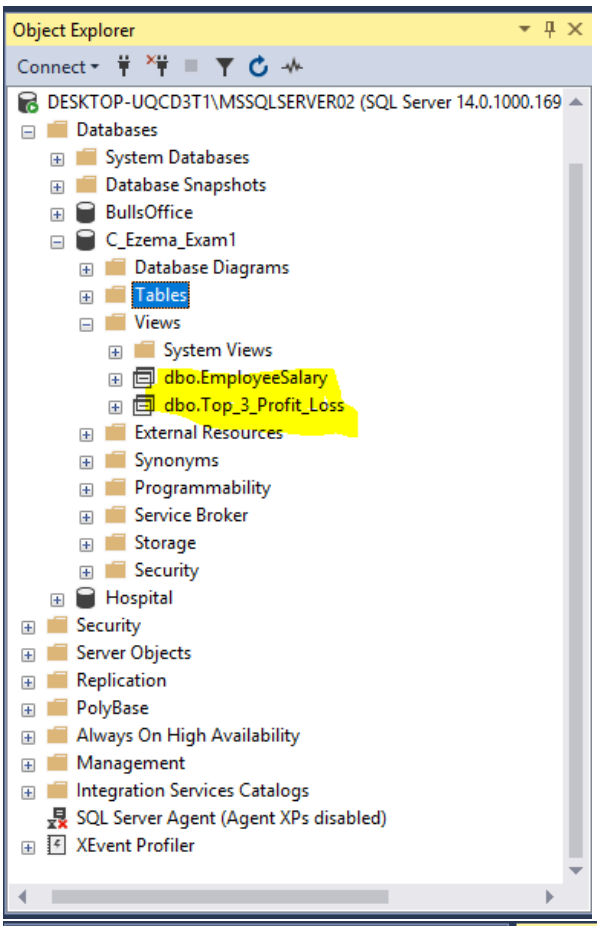
Triggers

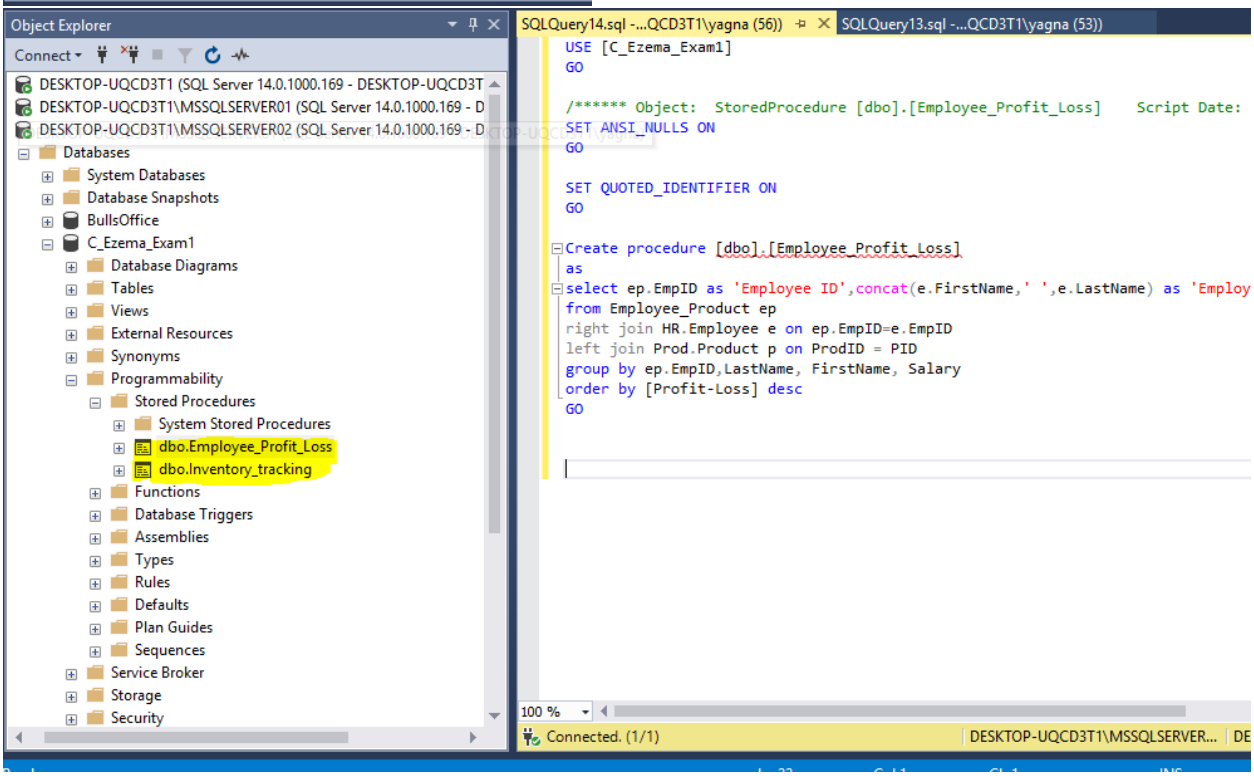


Trigger 2



Views and SPROCs using Joins and Aggregators

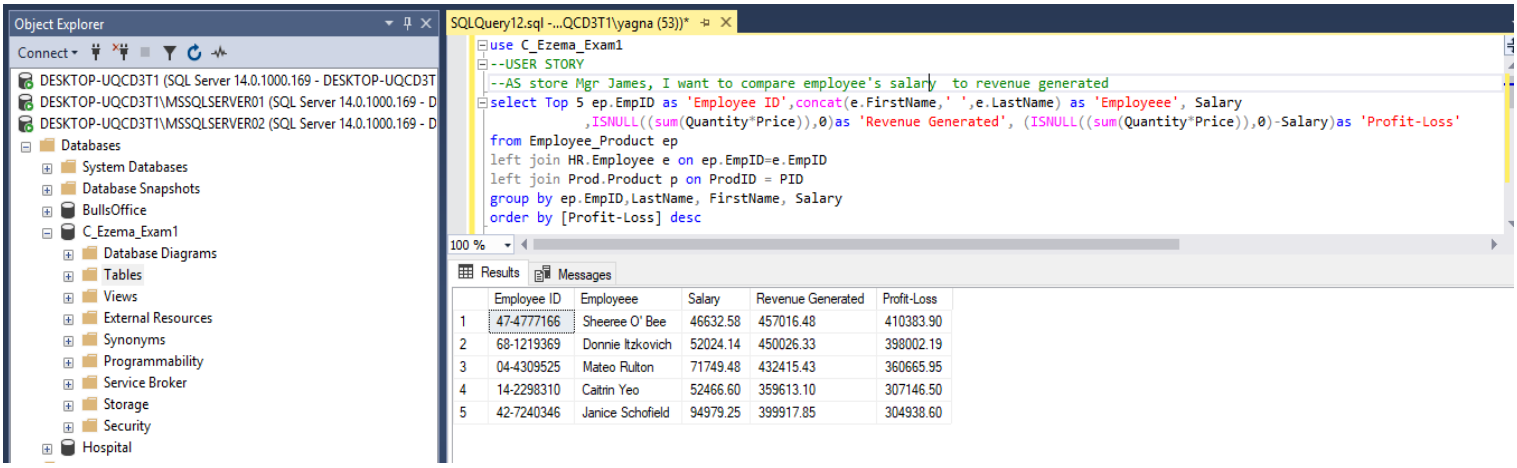




USER STORIES

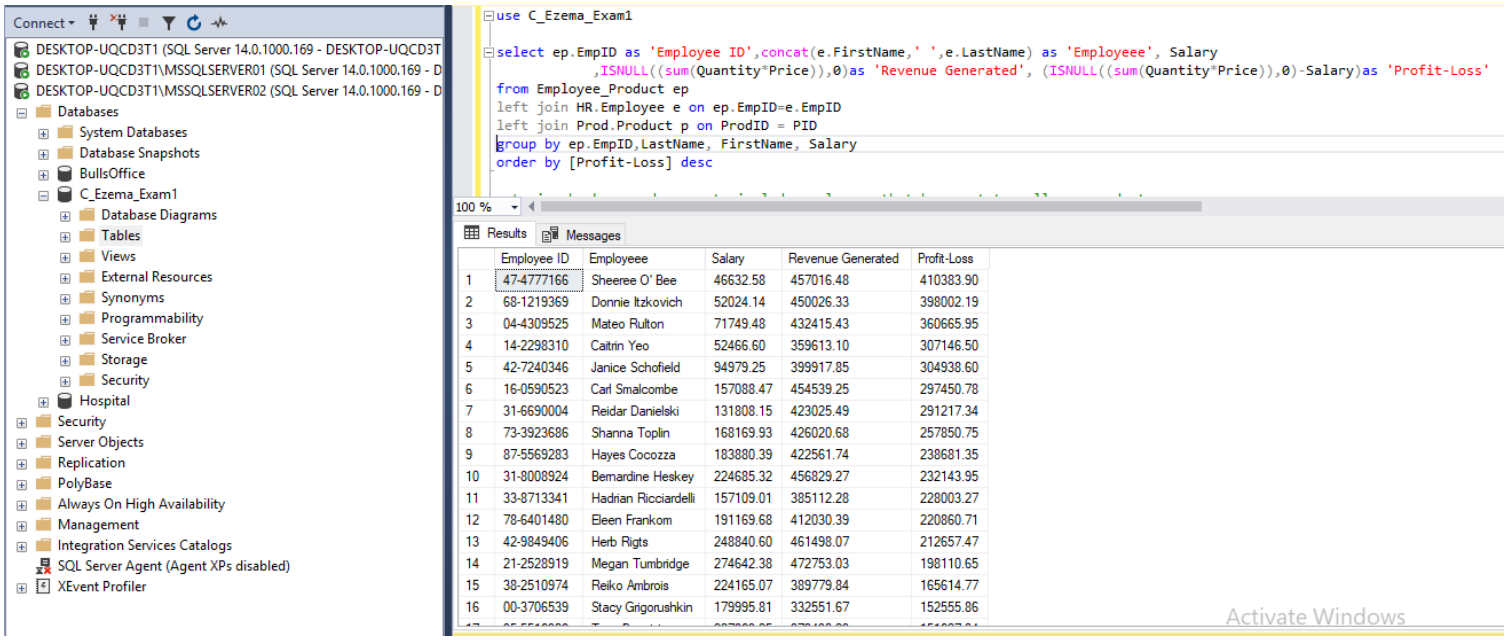
Left Join

As the store Manager James, I want to know my Top 5 employees so that they are recognized.



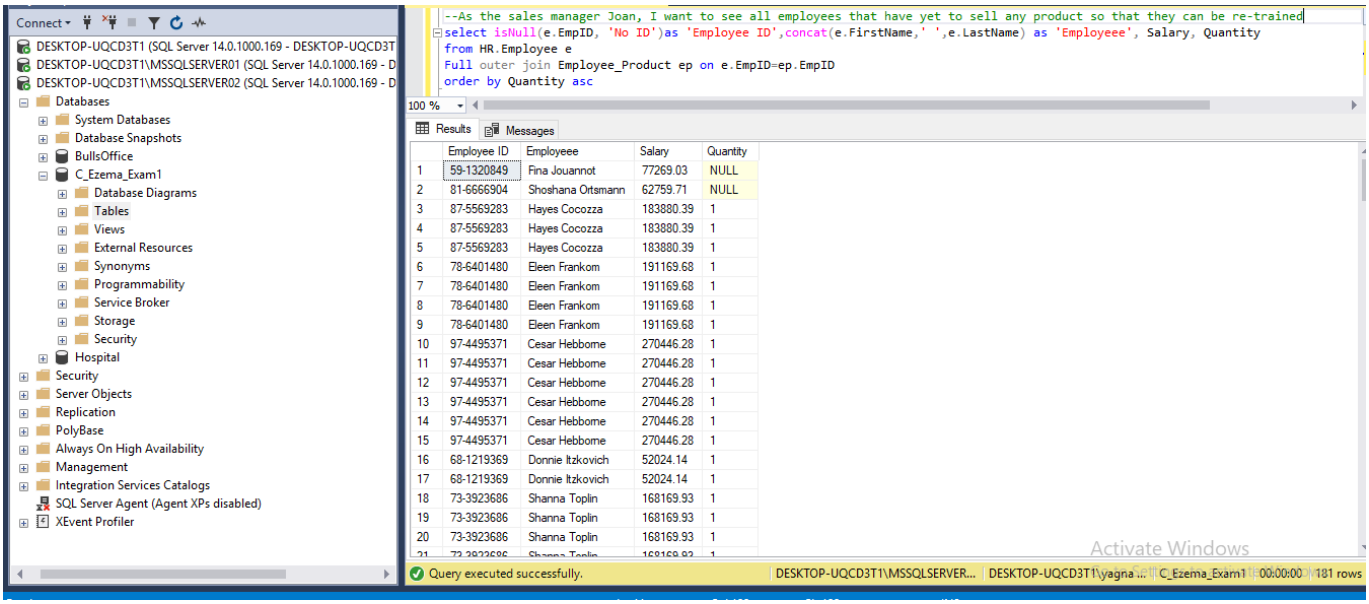
Logic Check:

Expanded the query results from showing only top 5 to showing profit-Loss for all employees



Full Join

As the sales manager Joan, I want to see all employees that have yet to sell any product so that they can be re-trained



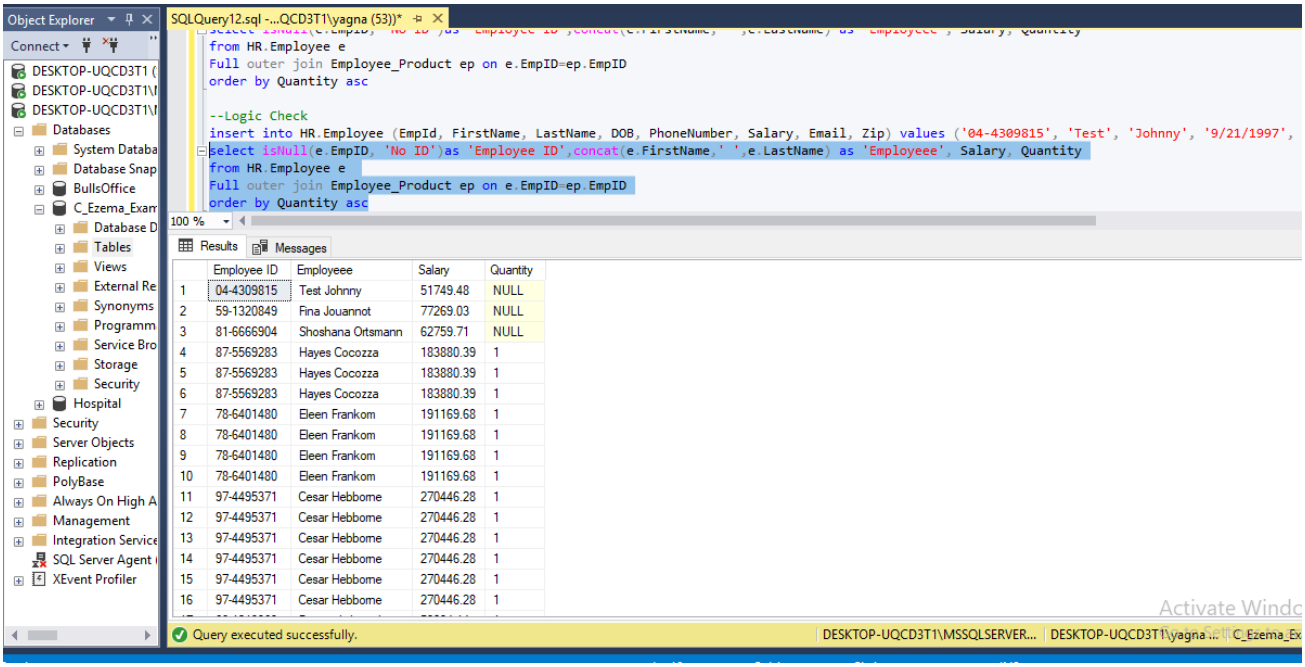
```
--As the sales manager Joan, I want to see all employees that have yet to sell any product so that they can be re-trained
select isNull(e.EmpID, 'No ID')as 'Employee ID',concat(e.FirstName,' ',e.LastName) as 'Employeee', Salary, Quantity
from HR.Employee e
Full outer join Employee_Product ep on e.EmpID=ep.EmpID
order by Quantity asc
```

	Employee ID	Employeee	Salary	Quantity
1	59-1320849	Fina Jouannot	77269.03	NULL
2	81-6666904	Shoshana Ortsmann	62759.71	NULL
3	87-5569283	Hayes Cocozza	183880.39	1
4	87-5569283	Hayes Cocozza	183880.39	1
5	87-5569283	Hayes Cocozza	183880.39	1
6	78-6401480	Eleen Frankom	191169.68	1
7	78-6401480	Eleen Frankom	191169.68	1
8	78-6401480	Eleen Frankom	191169.68	1
9	78-6401480	Eleen Frankom	191169.68	1
10	97-4495371	Cesar Hebbome	270446.28	1
11	97-4495371	Cesar Hebbome	270446.28	1
12	97-4495371	Cesar Hebbome	270446.28	1
13	97-4495371	Cesar Hebbome	270446.28	1
14	97-4495371	Cesar Hebbome	270446.28	1
15	97-4495371	Cesar Hebbome	270446.28	1
16	68-1219369	Donnie Itzkovich	52024.14	1
17	68-1219369	Donnie Itzkovich	52024.14	1
18	73-3923686	Shanna Toplin	168169.93	1
19	73-3923686	Shanna Toplin	168169.93	1
20	73-3923686	Shanna Toplin	168169.93	1

Query executed successfully. | DESKTOP-UQCD3T1\MSSQLSERVER... | DESKTOP-UQCD3T1\yagna ... | C_Ezema_Exam1 | 00:00:00 | 181 rows

Logic Check:

Added a new user Johnny Test to see if he would be populated when query was refreshed



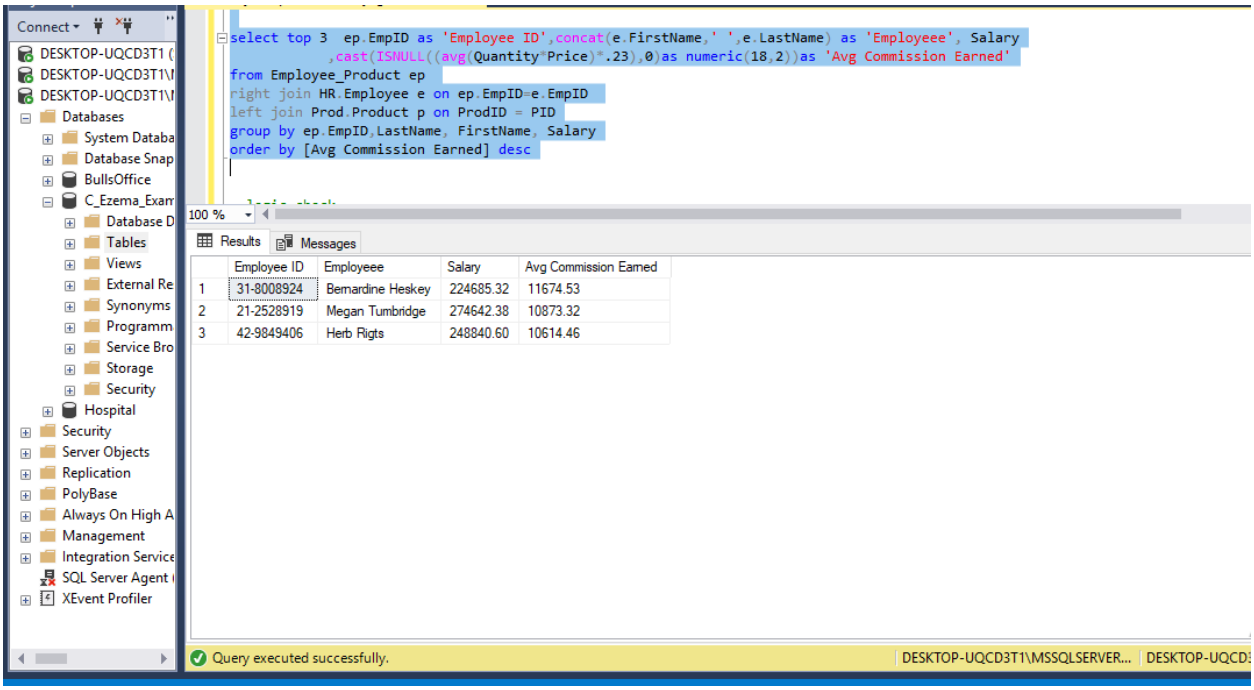
```
from HR.Employee e
Full outer join Employee_Product ep on e.EmpID=ep.EmpID
order by Quantity asc

--Logic Check
insert into HR.Employee (EmpId, FirstName, LastName, DOB, PhoneNumber, Salary, Email, Zip) values ('04-4309815', 'Test', 'Johnny', '9/21/1997',
select isNull(e.EmpID, 'No ID')as 'Employee ID',concat(e.FirstName,' ',e.LastName) as 'Employeee', Salary, Quantity
from HR.Employee e
Full outer join Employee_Product ep on e.EmpID=ep.EmpID
order by Quantity asc
```

	Employee ID	Employeee	Salary	Quantity
1	04-4309815	Test Johnny	51749.48	NULL
2	59-1320849	Fina Jouannot	77269.03	NULL
3	81-6666904	Shoshana Ortsmann	62759.71	NULL
4	87-5569283	Hayes Cocozza	183880.39	1
5	87-5569283	Hayes Cocozza	183880.39	1
6	87-5569283	Hayes Cocozza	183880.39	1
7	78-6401480	Eleen Frankom	191169.68	1
8	78-6401480	Eleen Frankom	191169.68	1
9	78-6401480	Eleen Frankom	191169.68	1
10	78-6401480	Eleen Frankom	191169.68	1
11	97-4495371	Cesar Hebbome	270446.28	1
12	97-4495371	Cesar Hebbome	270446.28	1
13	97-4495371	Cesar Hebbome	270446.28	1
14	97-4495371	Cesar Hebbome	270446.28	1
15	97-4495371	Cesar Hebbome	270446.28	1
16	97-4495371	Cesar Hebbome	270446.28	1

Query executed successfully. | DESKTOP-UQCD3T1\MSSQLSERVER... | DESKTOP-UQCD3T1\yagna ... | C_Ezema_Ex

Right Join

As store owner Jackie, I want to know the average earnings of each my top 3 sales rep so that they can used for benchmarking



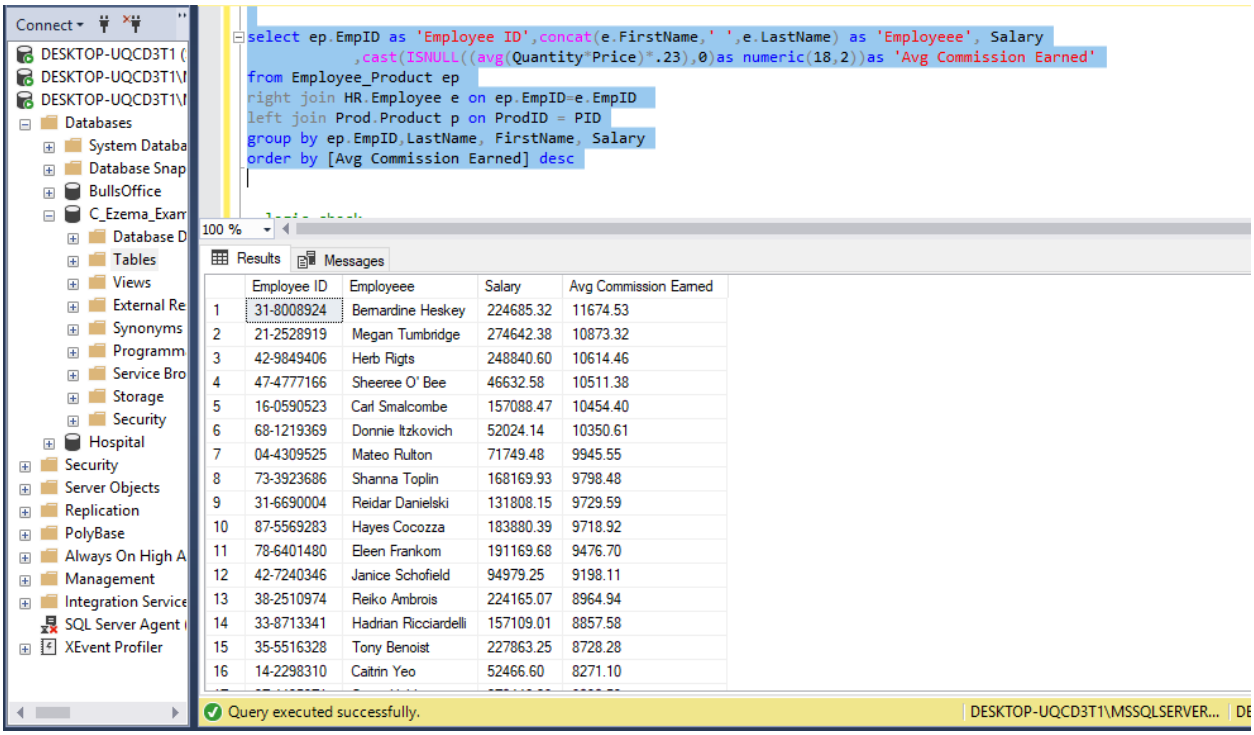
```
select top 3  ep.EmpID as 'Employee ID',concat(e.FirstName,' ',e.LastName) as 'Employeee', Salary
            ,cast(ISNULL((avg(Quantity*Price)*.23),0)as numeric(18,2))as 'Avg Commission Earned'
from Employee_Product ep
right join HR.Employee e on ep.EmpID=e.EmpID
left join Prod.Product p on ProdID = PID
group by ep.EmpID,LastName, FirstName, Salary
order by [Avg Commission Earned] desc
```

	Employee ID	Employeee	Salary	Avg Commission Earned
1	31-8008924	Bernardine Heskey	224685.32	11674.53
2	21-2528919	Megan Tumbridge	274642.38	10873.32
3	42-9849406	Herb Rigts	248840.60	10614.46

Query executed successfully.

Logic Check :

Expanding from top 3 to see the avg earnings of all employees



```
select ep.EmpID as 'Employee ID',concat(e.FirstName,' ',e.LastName) as 'Employeee', Salary
            ,cast(ISNULL((avg(Quantity*Price)*.23),0)as numeric(18,2))as 'Avg Commission Earned'
from Employee_Product ep
right join HR.Employee e on ep.EmpID=e.EmpID
left join Prod.Product p on ProdID = PID
group by ep.EmpID,LastName, FirstName, Salary
order by [Avg Commission Earned] desc
```

	Employee ID	Employeee	Salary	Avg Commission Earned
1	31-8008924	Bernardine Heskey	224685.32	11674.53
2	21-2528919	Megan Tumbridge	274642.38	10873.32
3	42-9849406	Herb Rigts	248840.60	10614.46
4	47-4777166	Sheeree O' Bee	46632.58	10511.38
5	16-0590523	Carl Smalcombe	157088.47	10454.40
6	68-1219369	Donnie Itzkovich	52024.14	10350.61
7	04-4309525	Mateo Rulton	71749.48	9945.55
8	73-3923686	Shanna Toplin	168169.93	9798.48
9	31-6690004	Reidar Danielski	131808.15	9729.59
10	87-5569283	Hayes Cocozza	183880.39	9718.92
11	78-6401480	Eleen Frankom	191169.68	9476.70
12	42-7240346	Janice Schofield	94979.25	9198.11
13	38-2510974	Reiko Ambrois	224165.07	8964.94
14	33-8713341	Hadrian Ricciardelli	157109.01	8857.58
15	35-5516328	Tony Benoist	227863.25	8728.28
16	14-2298310	Caitrin Yeo	52466.60	8271.10

Query executed successfully.